Early Subsequent Pregnancy among Economically Disadvantaged Teenage Mothers

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Abstract: This study investigated the antecedents and short-term consequences of an early subsequent pregnancy in a sample of economically disadvantaged teenage mothers. Data were gathered over a two-year period from a sample of 675 young mothers living in eight United States cities. Within two years of the initial interview, when half the sample was still pregnant with the index pregnancy, nearly half of the sample experienced a second- or higher-order pregnancy. Characteristics of the young women at entry into the study were relatively poor predictors of which teenagers would conceive again by the final interview. An early repeat pregnancy was associated with a number of negative short-term consequences in the areas of education, employment, and welfare dependency, even after background characteristics were statistically controlled. (*Am J Public Health* 1986; 76:167–171.)

Introduction

Teenage sexuality, pregnancy, and parenthood have become topics of intense national debate in the United States. Although solutions to the problem are subject to considerable controversy, there is no doubt that a problem exists; this "fact" has been documented in terms of an increase in the rate of premarital intercourse among American adolescents[1]; a higher rate of early childbearing in the US than in other industrialized countries[2,3]; and a range of negative consequences associated with teenage parenthood, including high rates of prematurity and other health risks to the infant, and high rates of divorce, educational deficits, and economic hardship for the mother.[4–7]

While adolescent childbearing in general has received increasing attention, special interest has focused on one particular segment of the adolescent population: economically disadvantaged teenagers, particularly those of a racial or ethnic minority. These teenagers have been identified as a high-risk group both because of evidence that their rate of early childbearing is higher than the norm[8,9] and because studies have shown that this group is particularly likely to suffer adverse consequences as a result of an early birth.[10] Also of concern is the fact that the public financial burden associated with childbearing among poor teenagers, in terms of such programs as Medicaid and Aid to Families with Dependent Children (AFDC), is disturbingly high.[10–13] Regardless of ideological orientation, there is strong consensus that this group is in need of public policy attention.

Interventions aimed at assisting teenage mothers in overcoming the adverse effects of an early birth have become widely available,[14] and many of these interventions have been implemented in urban areas where a high proportion of such births occur to teenagers living in poverty. A major goal of such interventions, typically, is to get the young mothers to use effective contraception to avoid an early subsequent birth.[15–18] The premise underlying this goal is that the accomplishment of other program objectives (such as school completion) may be compromised by an early repeat pregnancy. In fact, several investigators have noted that the negative consequences associated with teenage parenthood are magnified by the occurrence of an early repeat birth.[16,19]

Early repeat pregnancies among young mothers have been found to occur at a fairly high rate. Reports based on large-scale surveys indicate that about one out of five teenage mothers—regardless of race or ethnicity—become pregnant again within 12 months of delivering their first child. For example, in the 1979 Survey of Young Women aged 15–19 from metropolitan areas, 20 per cent of the teenage mothers had a repeat pregnancy within 12 months and 38 per cent had one within 24 months.[20] Ford, using data from the National Survey of Family Growth (NSFG), reported a 12-month repeat pregnancy rate of 17 per cent for women under age 20 at first birth.[21] In the NSFG data set, the rate of repeat pregnancy within 12 months of an earlier birth was nearly twice as high among women with incomes less than 150 per cent of poverty as among women with higher incomes (21 per cent versus 11 per cent). Similarly, reports based on evaluations of programs for young mothers have reported rates of repeat pregnancy in the range of 20 per cent to 25 per cent within 12 months postpartum.[16,18,22]

The purpose of the present study was to examine the incidence of early repeat pregnancy among those teenagers whose poverty and family circumstances make them especially susceptible to early pregnancy on the one hand and to adverse long-term educational and occupational outcomes on the other. The study examined factors that might be determinants of an early subsequent pregnancy, as well as short-term consequences of it.

Methods

Data for the present paper were obtained from a longitudinal study, the central purpose of which was to evaluate a multi-site demonstration program (Project Redirection) for young, economically disadvantaged teenage mothers and mothers-to-be. The eligibility criteria for the program, and therefore for the study sample, were as follows: the young women had to be 17 years old or younger, not yet have a high school diploma, be pregnant or a parent, and be receiving or eligible to receive AFDC. The demonstration program operated in four sites: Boston, New York City (Harlem), Phoenix, and Riverside, California.

The study design called for the collection of data from a sample of participants and nonparticipants at three points in time: at baseline (program entry for participants), and at 12-months and 24-months post-baseline. The data were collected between 1980 and 1983. The comparison group consisted of teenagers meeting program eligibility criteria but residing in comparable communities not offering a Project Redirection program (Hartford, Bedford Stuyvesant, San

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TABLE 1—Selected Characteristics of the Research Sample at Baseline

Characteristics	Percentage or Mean
Demographics	
Mean Age	16.4
Per cent Married	6.4
Per cent Pregnant, not a Parent	60.0
Per cent Black	46.3
Per cent Mexican American	24.3
Per cent Puerto Rican	17.6
Per cent White	8.7
Educational	
Per cent in School/GED Program	55.7
Mean Highest Grade Completed	8.8
Per cent Ever Dropped out of School	54.1
Fertility/Family Planning	
Mean Number of Pregnancies	1.20
Mean Age at First Birth	16.1
Per cent Ever Used Birth Control	43.8
Employment	
Per cent Employed	9.6
Per cent Ever Worked	62.1
Home Environment	
Per cent in an AFDC Household	65.6
Per cent Raised by Both Parents	25.1
Per cent Whose Mother was a Teenage Mother	67.1
Per cent Whose Mothers Completed High School	29.0

Antonio, and Fresno). The majority of comparison group teenagers, however, did participate in other local programs designed to serve teenage parents. Teenagers in both groups were typically recruited through referrals from community service agencies.

At baseline, the experimental and comparison groups were well matched in terms of demographic and family characteristics, pregnancy history, and use of contraceptives. Although the experimental group had significantly lower rates of subsequent pregnancy 12 months after baseline, when the majority were still enrolled in or had recently left the program, by 24 months post-baseline the two groups had similar rates of repeat pregnancy. When the analyses prepared for this paper were run separately for the two groups, similar patterns of results were obtained. Therefore, for the purpose of this paper, the two groups were combined and analyses were performed on the aggregated sample. Details of the evaluation are summarized by Polit and Kahn[23] and are described in full in their final report.[17]

The original research sample consisted of 789 teenagers. Two years post-baseline, 675 teenagers were re-interviewed. Few differences between those who did and did not complete a 24-month interview were observed, except that "completers" had more frequently been living with their mothers at baseline. An analysis of potential attrition bias in the results, using a two-stage regression procedure developed by econometricians,[24] suggested that bias resulting from the loss of respondents was negligible.

As suggested by the program eligibility criteria, the research sample was not a random sample of pregnant teenagers in America, but was drawn instead from a population of extremely disadvantaged teens. Table 1 summarizes the major characteristics of the research sample at baseline. The typical teenager was about 16 years old, living in an AFDC household, unmarried, and a member of a minority group (primarily Black). At baseline, only about half the teenagers were enrolled in school and the majority were a year or more behind in grade level. Fewer than half the teenagers had ever used any form of contraception. The majority had grown up in households headed by mothers who themselves had not finished school and had given birth during their teen years.

Results

Table 2 presents some descriptive information about fertility-related outcomes at baseline, 12-months post-baseline, and 24-months post-baseline. Despite their youth at the beginning of the study, nearly one out of five teenagers had already had more than one pregnancy. By the final interview, when these teens averaged just over 18 years of age, 56 per cent had had two or more pregnancies. On average, the teenagers had given birth to 1.4 children by the third interview and an additional 13 per cent were pregnant at that time.

Given the high rates of pregnancy in this group, the percentage of teenagers who had ever had an abortion is low (at baseline, about 5 per cent). By the 24-month interview, the percentage had risen to 13 per cent. For the sample as a whole, the abortion rate (number of abortions per 1,000 live births) was 112, approximately 10 per cent of all pregnancies. For the US as a whole, vital statistics records indicate that the percentage of pregnancies (excluding miscarriages) that were terminated by abortion for women aged 15 to 19 was 41 per cent in 1980.[25] Thus, it appears that this sample was considerably more likely to terminate their pregnancies in a live birth than is true for teenagers as a whole, suggesting a selectivity effect. However, it is also likely that some underreporting of abortions occurred among these teens, as has been found in other self-report studies.[8,9]

Table 2 indicates that, at baseline, most teenagers (73 per cent) wanted another pregnancy, but they wanted to space their next child by an average of about five years (64.4 months). Given that most teenagers had a subsequent pregnancy within two years of baseline, it seems likely that most

TABLE 2—Selected Fertility-related Variables for the Sample at Baseline, 12-Month and 24-Month Interviews

Selected Variables	Baseline Interview	12-Month Interview	24-Month Interview
Per cent Pregnant on Interview Date	61.8	9.4	13.2
Mean Number of Pregnancies	1.20	1.40	1.73
Per cent with More Than One Pregnancy	18.4	31.7	55.6
Mean Number of Live Births	0.48	1.10	1.35
Per cent with More Than One Live Birth	4.2	11.7	32.5
Per cent with One or More Abortions	4.9	9.0	13.2
Per cent Wanting Another Pregnancy	73.3	51.4	56.0
Mean Number of Months Desired to Next Pregnancy	64.4	53.1	50.6
Mean Number of Children Wanted in All	2.5	2.4	2.6

TABLE 3—OLS Regression of a Subsequent Pregnancy at 24 Months after Baseline[a] on Baseline Characteristics

Baseline Predictor Variable[b]	Unstandardized Coefficient	Standard Error	Mean Value of Predictors
Time Factors			
Number of Months, Baseline to Termination of Index Pregnancy	.01*	(.00)	.23
Number of Months, Baseline to 24-Month Interview	.02*	(.01)	25.80
Background Characteristics			
Black	.04	(.05)	.46
Puerto Rican	.07	(.06)	.18
White	−.01	(.07)	.09
Married	.01	(.08)	.06
Mother's Education	−.00	(.00)	10.01
Mother Was a Teenage Mother	−.01	(.04)	.67
Motivataional Variables			
Age at First Birth	.01	(.01)	16.08
Ever Had an Abortion	−.07	(.09)	0.05
Number of Baseline Pregnancies	.01	(.05)	1.20
Ever Used Oral Contraceptives	.05	(.05)	.28
In School or GED Program	−.10*	(.05)	.56
Highest Grade Completed	−.02	(.02)	8.83
Number of Times Dropped out of School	.07*	(.03)	.66
Number of Semesters in a Teenage Parent School Program	.03	(.03)	.44
Employed	−.10	(.07)	.10
Ever Worked for Pay	.03	(.04)	.62
Constant	.36		
Number of Respondents	670		
Adjusted R^2	.07		

[a]The dependent variable was whether the teenager had a pregnancy after termination of the index pregnancy (coded 1) or did not have a subsequent pregnancy by the time of the final interview (coded 0).
[b]All dummy predictor variables were coded 1 for the variable as specified, 0 for the contrast.
*Ratio of coefficient to its standard error greater than 2.0.

of these repeat pregnancies were unintended. This is consistent with data from the National Survey of Family Growth, in which it was found that 82 per cent of the repeat pregnancies to Black teenagers were unplanned.[21]

The data in Table 2 suggest that, unless the teenagers in the study sample improve their fertility control, they may have more children than they want. At all three interview periods, the average number of children desired was about 2.5. At an average age of just over 18, teenagers in the research sample had already had more than half of the total number of children they said they wanted.

Table 3 presents the results of the regression analyses used to investigate the determinants of an early subsequent pregnancy.* The dependent variable in this analysis was a dummy variable indicating whether the teenager had become pregnant subsequent to the delivery of the index pregnancy (the pregnancy in progress or recently terminated at baseline), at any time during the 24-month follow-up period. Teenagers with a subsequent pregnancy were coded 1, and all others were coded 0. Three types of predictor variables were used in the regression analysis: variables to control for time factors, variables to control for various background characteristics, and variables presumed to capture aspects of the teenagers' early motivations. The background variables used in the analysis were ones that are often linked to either lifetime fertility or to other life outcomes. With respect to motivation, three types of behaviors—all measured at baseline—were chosen as proxies of the teenagers' early motivational levels: fertility-related, educational, and employment-related.

The overall predictive power of the variables was very low. Only 7 per cent of the variance is accounted for by the explanatory variables. (By contrast, when similar variables were used to explain educational behaviors at the final interview, the amount of variance explained was generally 25 to 30 per cent.) The two most powerful predictors were the variables controlling for time at risk. The longer the teenager was at-risk of a post-baseline pregnancy, the more likely she was to have one. Among those teenagers who had a subsequent pregnancy in this sample, the mean interval between pregnancies was 14.1 months.

Another interesting aspect of Table 3 is the fact that none of the background control variables had any predictive power in explaining an early subsequent pregnancy in this population. This finding probably reflects the overall homogeneity of the sample in terms of socioeconomic status and age.

Finally, among the motivational measures, only two school-related behaviors were significant predictors of a repeat pregnancy: whether the teenager had been enrolled in a school program at the time of the initial interview, and how often she had dropped out of school. Teenagers who were in school at baseline and who had less of a dropout record were significantly less likely than other teenagers to have a repeat pregnancy, even when other factors were controlled. None of the baseline fertility or employment measures had much predictive power.

Table 4 presents adjusted outcomes for the teenagers

*The results of ordinary least squares (OLS) regression are presented here because of the ease with which OLS coefficients can be interpreted. Results of a logit regression were essentially the same, which is consistent with findings that alternative estimation procedures yield similar results when the mean of a dichotomous dependent variable is near .50.[26]

TABLE 4—Adjusted Outcomes at the 24-Month Interview, for Teenagers with or without a Repeat Pregnancy[a]

Selected Outcomes	Teens without a Repeat Pregnancy (N = 359)	Teens with a Repeat Pregnancy (N = 315)	Difference[b]
Per cent Ever Enrolled in an Educational Program, Preceding Two Years	78	80	−2 (−5.9, 1.9)
Per cent Enrolled in School or Completed, Final Interview	47	40	7 (1.0, 13.0)
Per cent Either Working, in School, or Completed School, Final Interview	55	42	13 (8.7, 17.3)
Per cent Either in the Labor Force[c], in School or Completed School, Final Interview	76	61	15 (10.9, 19.1)
Per cent Employed, Final Interview	21	9	12 (8.2, 15.8)
Per cent Ever Worked, Preceding Two Years	74	70	4 (−1.2 9.2)
Per cent Living in an AFDC Household at Final Interview	74	68	−6 (−12.2, 0.2)
Per cent Receiving Own AFDC Grant, Final Interview	54	64	−10 (−16.9, −3.1)

[a]The means and percentages in this table were adjusted for ethnicity, age at first birth, school status at baseline, highest grade completed at baseline, number of baseline pregnancies, baseline work experience, and AFDC status at baseline.
[b]Data are presented as the mean difference plus or minus the 95% confidence interval.
[c]A teenager was in the labor force if she was working or seeking employment.

with and without a repeat pregnancy, with respect to education, employment, and welfare dependency at the final interview. All of these means and percentages have been adjusted, through multiple classification analysis, for various demographic and background variables presumed to influence economic and educational outcomes (e.g., ethnicity, age at first birth, early school behaviors, and baseline work experience). With these variables controlled, several important differences were observed. Teenagers with a subsequent pregnancy were less likely to be working or to have a positive school status (in school or completed), and more likely to be receiving AFDC than those teenagers who avoided another pregnancy. The only two outcomes for which group differences were unimportant were measures of a cumulative nature—ever in school or ever worked post-baseline—which suggests that the two groups became different as a result of the pregnancy. That is, the teenagers who were eventually going to have an early subsequent pregnancy were as likely as other teenagers to return to school or get a job following their index pregnancy, but their status at the end of the study (following a repeat pregnancy) became less favorable. Thus, the subsequent pregnancy appears to have exacerbated the problems that are typically associated with early childbearing.

Discussion

These findings are not encouraging. The absolute rates of repeat pregnancy were higher than the rate of repeat pregnancy at 24-months postpartum reported in several other studies,[20,21] but this probably reflects the highly select nature of the present sample—i.e., they were younger and more disadvantaged than teenagers in most other studies.

Our results confirm findings from other research that indicate that closely spaced births among adolescent mothers intensify the problems they experience in completing their education and achieving economic self-sufficiency. Since there is also considerable evidence that the health risks to higher-order infants of young mothers are heightened,[19,27-29] these analyses suggest that poor young mothers should be targets of ongoing concern well beyond the safe delivery of the first infant.

Another disappointing aspect of the findings is the low explanatory power of the variables used to predict which teenagers would experience a subsequent pregnancy. Given the limited resources now available for social programs, it would be useful to target such resources to those most at-risk of an early repeat pregnancy. However, in this relatively homogeneous sample, time was the best predictor: the longer the time since a previous pregnancy termination, the greater the risk of another conception.

Despite the availability of several behavioral measures presumed to reflect the teenagers' early investments in their own futures, only two "motivational" variables were related to the incidence of an early repeat pregnancy: school attendance at baseline, and dropout history. These findings—and the absence of others—present a serious challenge to educational systems and school personnel. There is a growing recognition of the importance of schools in addressing the problem of adolescent pregnancy, since schools are the one institution in our society that can reach out to all children.[30]

Nevertheless, the effect of early educational experiences was not powerful. High rates of repeat pregnancy prevailed regardless of the teenagers' school history. Despite their stated goals of postponing further childbearing, and despite the fact that 75 per cent of the sample had participated in special teenage parent programs that discouraged further early births, half of the teenagers went on to become pregnant again in the short two-year study period. The question that persists is why these teenagers were not more successful in delaying another conception. In this sample at least, inadequate knowledge of and access to birth control do not appear to be the impediments to these teenagers avoidance of a higher-order pregnancy. Virtually every teenager in our study reported having had some birth control counseling, often on repeated occasions.

While these findings could be interpreted to suggest that the teenagers in this sample are reinforced by the welfare system for having multiple births, there is little in the descriptive data gathered in this study to support this interpretation. Findings from other studies have consistently challenged this view.[10] Three years of studying these teenagers suggest to us that they were not motivated *to* have a second pregnancy, but were insufficiently motivated to avoid one. From the perspective of the teenagers in this study, the

"opportunity costs"—i.e., the foregone experiences and income—of a subsequent birth may be negligible. Even with a high school diploma, high-paying jobs for women without advanced training are almost non-existent. Furthermore, having a baby is likely to confer upon the teenager a number of social and personal rewards.[31,32]

This interpretation is consistent with the finding from the widely publicized study recently released by the Alan Guttmacher Institute. Jones and her colleagues[2] found that, in comparing 37 developed countries, an important correlate of the teenage pregnancy rate was inequities in the country's distribution of income. The United States, which had the highest rate of teenage pregnancy, also had one of the smallest proportions of total income distributed to families in the bottom 20 per cent of the population.

The sample for the present study comes from this bottom rung of the economic ladder. The occupational, educational, and marriage opportunities of these teenagers are quite different from that of White, middle-class teenagers in our society. It seems likely that until mechanisms are developed that offer real and accessible rewards and life options (e.g., a permanent job with a decent wage) for avoiding another pregnancy, the rate of early subsequent births in this population will remain high. Until that time, we can expect that health, education, and other community organizations will continue to be taxed by the heavy need for ameliorative services by these young women.

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